

# Continents File

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# Import the modules needed for the tutorial
import vcs, cdms, cdutil, time, os, sys

# Open data file:
filepath = os.path.join(sys.prefix, 'sample_data/clt.nc')
cdmsfile = cdms.open( filepath )

# Extract a 3 dimensional data set and get a subset of the time dimension
data = cdmsfile('clt', longitude=(-180, 180), latitude = (-90., 90.))

# Initial VCS:
v = vcs.init()

# Show the list of continents attribute names.
v.show('continents')

# Assign the variable "ct_asd" to the persistent 'ASD' continents graphics methods.
ct_asd = v.getcontinents( 'ASD' )

# Plot only the the above continents graphics method.
v.plot( ct_asd )
print ""
print "Press the Return key to see next plot."
sys.stdin.readline()

# List the 'ASD' boxfill graphics methods attributes.
ct_asd.list()

# Change 'ASD' continents graphics methods attributes by entering the following commands.
ct_asd.line = 2          # set the line type
ct_asd.linecolor = 242  # set the line color
ct_asd.linewidth = 3    # set the line width
ct_asd.type = 3         # change the continents type to the 'Fine Continents'
print "Press the Return key to see next plot."
sys.stdin.readline()

# Clear the VCS canvas and plot data using the boxfill graphics method. Also use the predefined t
v.clear()
v.plot( data, 'ASD', continents=0 )
print "Press the Return key to see next plot."
sys.stdin.readline()

# Now overlay the 'ASD' continents using the 'ASD_dud' template. The 'ASD_dud' template omits all
v.plot( ct_asd, 'ASD_dud' )
print "Press the Return key to see next plot."
sys.stdin.readline()

# Change the continents attributes for better viewing
ct_asd.line = 0          # change to solid line
ct_asd.linecolor = 241   # change the line color to black
ct_asd.linewidth = 2    # change the line width to 2
ct_asd.type = 5         # change the continents type to the 'United States'
print "Press the Return key to see next plot."
sys.stdin.readline()

# Clear the VCS canvas and plot data using the boxfill graphics method. Also use the predefined t
v.clear()
v.plot( data, continents=4 )
print "Press the Return key to see next plot."
sys.stdin.readline()
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# Now get the line 'continents' object.
lc = v.getline('continents')
lc.list()

# Change line attribute values
lc.color=250
lc.width=2

# Clear the canvas and plot changes
v.clear()
v.plot( data, continents=4 )
print "Press the Return key to end."
sys.stdin.readline()
```